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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,127	12/18/2000	Sylvie Laquerre	ONYX1043ORD	6396

7590

07/30/2002

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EXAMINER

MOSHER, MARY

ART UNIT

PAPER NUMBER

1648

DATE MAILED: 07/30/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/741,127

Applicant(s)  
Laquerre et al

Examiner  
Mosher

Art Unit  
1648



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 5/14/02
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5 6) ☐ Other:

Art Unit: 1648

## **DETAILED ACTION**

### ***Election/Restriction***

On reconsideration, examination of claims 10-13 in addition to elected claims 1-9 is seen as not unduly burdensome. Therefore the requirement for restriction is withdrawn.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-12 are rejected under 35 U.S.C. 102(b) as anticipated by Lubinski et al (Journal of Virology 72(10): 8257-8263, 1998). Lubinski teaches a body-treating composition comprising a gC-deficient HSV in a sterile physiologically balanced solution at titer  $5 \times 10^5$  pfu, see page 8258, column 2, line 7. Although Lubinski does not teach applicant's intended use for the composition, the disclosed composition contains exactly the same ingredients as specified in the claimed composition.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 1648

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4 and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabkin et al (6,379,674) in view of Lubinski et al (Journal of Virology 72(10): 8257-8263, 1998). Rabkin teaches a method for treating a neoplasm comprising administering a mutant herpes simplex virus (HSV) to the neoplasm, resulting in death of the infected cells and induction of an immune response against noninfected cells of the tumor. See for example the Abstract. Rabkin also teaches combination of this therapy with chemotherapy, see column 8, lines 17-20, and teaches treatment of a wide variety of tumor types, see the passage spanning columns 9-10. Rabkin differs from the claimed invention, in that Rabkin does not specify a gC-defective HSV. However, Lubinski teaches that HSV gC mediates immune evasion and inhibits complement-mediated lysis of infected cells. Since the purpose of Rabkin is to induce an immune response against the infected tumor cells, one of ordinary skill in the art would have been motivated to use a gC-defective HSV, for the purpose of improving the immune response induced by the infected

Art Unit: 1648

cells and improving the lysis of infected tumor cells. The invention as a whole is therefore prima facie obvious, absent unexpected results.

Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabkin et al (6,379,674) in view of Lubinski et al (Journal of Virology 72(10): 8257-8263, 1998) as applied to claims 1-4 and 7-13 above, and further in view of Sunstrum et al (Virus Research 11: 17-32, 1988). Claims 5-6 differ from the above in that they require the gC-negative virus to be descended from KOS, specifically strain gC-39. As discussed above, Rabkin teaches induction of an immune response against tumor cells comprising infecting the cells with a herpesvirus, and Lubinski teaches that unmutated gC protein mediates immune evasion and inhibition of complement-mediated lysis of infected cells. Lubinski also states that strain KOS and gC mutants of KOS are low in complement-binding activity, see the last paragraph of the introduction. Lubinski cites Sunstrum in relation to KOS and its gC mutants. Sunstrum teaches that the gC deletion mutant gC-39 is not neurovirulent, and that even gC<sup>+</sup> recombinants derived from strain gC-39 were attenuated. Therefore, one desiring a gC-mutant HSV for use in vivo (as suggested by the combined teachings of Rabkin and Lubinski) would have been motivated to choose strain gC-39, since Sunstrum teaches that this strain is gC-deficient, not neurovirulent, and contains more than one mutation rendering it not attenuating. The invention as a whole is therefore prima facie obvious, absent unexpected results.

The following publications are cited as of interest, as teaching elements of the claimed invention. Martuza et al (US 5728379), similar to Rabkin et al cited in the above rejections,

Art Unit: 1648

teaches a different therapeutic method for tumors using oncolytic HSV which is not neurovirulent, and teaches pfu dosage form, see col. 28, lines 15-26, and combination with chemotherapy, see col. 6 lines 20-23. Lubinski et al (Journal of Experimental Medicine 11:1637-1646, 6 December 1998) teaches gC deletion mutants and the role of gC in immune evasion, similar to the teachings of Lubinski et al (Journal of Virology 72(10): 8257-8263, 1998) cited in the above rejections. Glorioso et al (US 5998174) also suggests tumor treatment using HSV, see col. 2 lines 45-48, and explicitly suggests inserting foreign DNA in gC, see col. 8 line 61. These references are not cited in 103 rejections because they are seen as cumulative for the invention as currently claimed.

No claim is allowed.

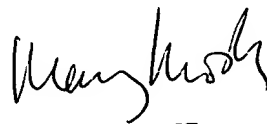
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary E. Mosher, Ph.D. whose telephone number is (703) 308-2926. The examiner can normally be reached on Monday -Thursday and alternate Fridays from 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Housel, can be reached on (703) 308-4027. The fax phone number for this Group is now (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

July 29, 2002

  
**MARY E. MOSHER**  
**PRIMARY EXAMINER**  
**GROUP 1800**  
1600